



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 11345P5 W0w/JMH	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/GB2004/004692	International filing date (<i>day/month/year</i>) 05.11.2004	Priority date (<i>day/month/year</i>) 07.11.2003
International Patent Classification (IPC) or national classification and IPC A01N53/00		
Applicant RECKITT BENCKISER (AUSTRALIA) PTY LIMITED		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 7 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> <i>sent to the applicant and to the International Bureau</i> a total of 13 sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).		
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application		
Date of submission of the demand 12.08.2005	Date of completion of this report 02.02.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Marie, G Telephone No. +49 89 2399-2571 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/004692

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-44 as originally filed

Claims, Numbers

1-59 received on 12.08.2005 with letter of 05.08.2005

Drawings, Sheets

1/6-6/6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/004692

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-59
	No: Claims	-
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-59
Industrial applicability (IA)	Yes: Claims	1-59
	No: Claims	-

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item I

Basis of the report

The documents to which this report refers are numbered in their order of appearance in the international search report.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Amendments (Article 34(2)(b) PCT)

Newly filed claims 1-59 are based on features present in the application as originally filed. The requirements of Article 34(2)(b) PCT are therefore fulfilled.

2. Novelty (Article 33(2) PCT)

D1 discloses an insect controller comprising a volatile insecticide, such as empenethrin or transfluthrin, which is applied on a support with at least one through hole, preferably a paper support having a honeycomb structure, using acetone as solvent. Said agent is used without heating or artificial wind. According to a preferred embodiment, the substrate exists in a close and open form (see *pages 2-5, figures 4 and 5*).

D2 discloses a method for controlling insects, particularly mosquitos, using a solution of a volatile pyrethroid comprising acetone and polyethyleneglycol. Said solution is impregnated on a cellulose-containing substrate (see *cited parts in the international search report*).

D3 discloses a device which is suitable for controlling insects, particularly mosquitos and flies, comprising a solution of a volatile pyrethroid, wherein the solvent can be ethanol or acetone, which is impregnated on a cellulose-containing substrate (see *cited parts in the international search report*).

D4 and **D5** disclose paper or cellulose-containing substrates for insect control

which are impregnated with solutions of volatile pyrethroids, preferably transfluthrin (see *cited parts in the international search report*).

D6 discloses a piece of paper work with a honeycomb structure on which solutions of volatile pyrethroids in acetone are coated. Said material is used against flies and mosquitoes. Said material can be included within a cylinder (see *cited parts in the international search report*).

The difference between the subject-matter of present claims 1-48, 50 and 54-59 and the insect controllers described in those documents lies in the use of a carrier solvent which exhibits specific physico-chemical properties.

In the specific case of claims 49 and 51-53, the nature of the solvent is not given so that it is not possible to determine whether the effect which is claimed to be obtained with the products

3. Inventive step (Article 33(3) PCT)

- 3.1 The use of specific carrier solvents for increasing the release rate of vapour active pyrethroids seems to involve a surprising and non-obvious technical effect when compared to the prior art insect controllers which comprise solvents such as ethanol and/or acetone.

Indeed, demonstration is made in the *examples* that some solvents which exhibit certain physico-chemical characteristics (evaporation rate, boiling point and polarity index) result in an increase in the release rate of the insecticide.

However, it appears that certain solvents which physico-chemical characteristics fall under the definition of claims 1, 4, 23, 26, 30, 33, 35, 38 and 50 do not allow to get an increased released rate of the insecticide (see in particular *paragraph bridging page 23 and 24* of the description and *example 8* wherein Exxsol D140 which has a boiling point comprised between 285 and 317°C is used).

Although the present subject-matter has been restricted to a boiling point that has an upper range of 300°C, Exxsol D140 starts to boil at 285°C.

Inventive step could only be acknowledged for the subject-matter of claims 1-48, 50 and 54-59 if the definition of the solvent is restricted to certain physico-chemical ranges, in particular regarding boiling point, over which the technical problem has been solved.

- 3.2 Claims 49 and 51-53 do not contain the technical features which are responsible for the surprising technical effect for which an inventive step could be acknowledged. The fact of stating that the vapour active pyrethroid is emanated into an environment at a rate of at least approximately 0.040 mg/h is not considered to be a technical feature but the result to be achieved by the present invention (improved release rate).

Since the above-mentioned essential technical features are missing in these claims, no inventive step can be acknowledged. This further contravenes the requirements of Article 6 PCT taken in combination with Rule 6.3(b) PCT.

4. Industrial applicability (Article 33(4) PCT)

The industrial applicability of the present invention is acknowledged.

Re Item VII

Certain defects in the international application (form or content)

5. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents **D1-D6** is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application (clarity)

- 6.1 The nature of the solvent appears to be optional in the description (see list including acetone, PEG... on *page 21, line 23 - page 22, line 23*). This leads to a lack of clarity since the invention results from the specific choice of a carrier solvent which exhibits

certain physico-chemical properties.

- 6.2** The use of the term "*about*" in the claims and in the description renders the subject-matter unclear within the meaning of Article 6 PCT (see also PCT Guidelines 5.38).
- 6.3** The subject-matter of claims 56 and 57 relates to two different categories which is not allowable under Article 6 PCT.
- 6.4** The last paragraph of the description leads to doubt concerning the matter for which protection is sought.

N.B. It the Applicant wishes to enter the european regional phase, his attention is drawn to the requirements of Article 84 EPC taken in combination with Rule 29(2) EPC.